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(19) **United States**(12) **Patent Application Publication****Seeley et al.**(10) **Pub. No.: US 2008/0211353 A1**(43) **Pub. Date: Sep. 4, 2008**(54) **HIGH TEMPERATURE BIMORPH ACTUATOR**(22) Filed: **Mar. 2, 2007****Publication Classification**(76) Inventors: **Charles Erklin Seeley**, Niskayuna, NY (US); **Dirk Bellamy**, Salem, OR (US); **Eladio Clemente Delgado**, Burnt Hills, NY (US); **Jan Kunzmann**, Chemnitz (DE)(51) **Int. Cl.**  
**H01L 41/08** (2006.01)(52) **U.S. Cl.** ..... **310/359**(57) **ABSTRACT**

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A bimorph actuator has been found that uses commonly available piezoelectric material and is operational up to about 150° C. or one half of Curie temperature, in that it does not exhibit depolarization due to negative electric fields and/or elevated temperature. This result is accomplished by driving both piezoelectric materials with a positive electric field along the polarization direction.

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